

AperTO - Archivio Istituzionale Open Access dell'Università di Torino

Sound Pragmatics. An emergentist account of musical meaning

This is the author's manuscript

Original Citation:

Availability:

This version is available <http://hdl.handle.net/2318/1654462> since 2017-12-08T10:51:31Z

Published version:

DOI:10.4396/2017120114

Terms of use:

Open Access

Anyone can freely access the full text of works made available as "Open Access". Works made available under a Creative Commons license can be used according to the terms and conditions of said license. Use of all other works requires consent of the right holder (author or publisher) if not exempted from copyright protection by the applicable law.

(Article begins on next page)

Sound Pragmatics. An emergentist account of musical meaning*

Alessandro Bertinetto

Università di Torino

alessandro.bertinetto@unito.it

Abstract In this paper I counter the formalistic rejection of musical meaning and the consequent dismissal of the analogy between music and language. Although musical formalists may concede that music can express emotions and offer sonic analogues of dynamic relations, they claim that, contrary to a linguistic meaning, which would imply the inter-subjectively sharable reference to contents, purported musical meaning is vague, private, and arbitrary. Hence, they argue, music has no semantics, and, consequently, is not like language.

However, the formalist account of linguistic meaning overlooks the pragmatic view of linguistic meaning. According to such an approach, language is a kind of action and linguistic meaning is determined by the use of language in specific contexts. Drawing on pragmatics, I will suggest that musical meaning is structurally and interestingly analogous to linguistic meaning, understood in such a way. A pragmatic understanding of music as communication, which is also supported by philosophical and empirical research on musical power to embody personal traits, is all what we need for answering positively the question of musical meaning. Musical works and musical performances are, like speech acts, communicational actions that activate and determine the vague and undetermined meaning of music, originated by music power of representing dynamic and emotional relations. Music's determined meaning is actualized in virtue of its "context of use" (accordingly to the cultural-social conventions of practices), while, conversely, musical actions contribute meaning to its context(s).

Generally speaking, musical meaning emerges through contextual relations and interpretational acts. In this regard, focusing on the reciprocal connection between group improvisation and conversation, I will finally provide an *emergentist* and non-intentionalist account of the pragmatic generation of musical meaning, which may be heuristically adopted also as paradigm of a conversational view of the interpretation of artworks.

Keywords: philosophy of music, musical meaning, pragmatics, improvisation, emergentism

Invited paper; published online 3 December 2017.

To Peter Kivy.
In memoriam

0. Introduction

In this paper I counter the formalistic rejection of musical meaning and the consequent dismissal of the analogy between music and language. Although musical formalists may concede that music can express emotions and offer sonic analogues of dynamic relations, they claim that, contrary to a linguistic meaning, which would imply the inter-subjectively sharable reference to contents, purported musical meaning is vague, private, and arbitrary. Hence, they argue, music has no semantics, and, consequently, is not like language.

However, the formalist account of linguistic meaning overlooks the pragmatic view of linguistic meaning. According to such an approach, language is a kind of action and linguistic meaning is determined by the use of language in specific contexts. Drawing on pragmatics, I will suggest that musical meaning is structurally and interestingly analogous to linguistic meaning, understood in such a way. A pragmatic understanding of music as communication, which is also supported by philosophical and empirical research on musical power to embody personal traits, is all what we need for answering positively the question of musical meaning. Musical works and musical performances are, like speech acts, communicational actions that activate and determine the vague and undetermined meaning of music, originated by music power of representing dynamic and emotional relations. Music's determined meaning is actualized in virtue of its "context of use" (accordingly to the cultural-social conventions of practices), while, conversely, musical actions contribute meaning to its context(s).

Generally speaking, musical meaning emerges through contextual relations and interpretational acts. In this regard, focusing on the reciprocal connection between group improvisation and conversation, I will finally provide an emergentist and non-intentionalist account of the pragmatic generation of musical meaning, which may be heuristically adopted also as paradigm of a conversational view of the interpretation of artworks.

1. The Problem of Musical Meaning

1.1. The Formalist Stance

There are structural similarities between music and language¹, especially because both linguistic and musical events take place over time through sequential connections of acoustic elements and share the possibility of codification. Music is usually conceived of (metaphorically) as a language and, in particular, a language of sentiments. Conversely, language can be understood in musical terms and «presupposes musical sensitivities» (HIGGINS 2012: 87), as evidenced by the

* I wish to thank Andrew Huddleston for carefully revising the English text of the article and offering precious comments. This research has been possible thanks to the financial support from the research project FFI 2015-64271-P, "Aesthetic experience of the arts and the complexity of perception", of the Spanish Ministry of Economy and Competitiveness.

¹ See BLACKING 1974, JACKENDOFF, LEHRDAL 1983, SLOBODA 1985, RAFFMAN 1993, BESSON 1999, BESSON, SCHÖN 2003, SACKS 2007, HIGGINS 2012, BERTINETTO 2017.

exemplary case of poetry (see LIPPMAN 1999, EMONS 2011). Moreover, philosophical and scientific theories defend their common evolutionary origin². However, the view of music as language has been challenged with strong objections. The key one is surely that music cannot refer to and denote, as language does, things and concepts³. The articulation of some musical elements is analogous to grammatical structures and the formal elements of music may be conceived of in terms of syntax (or «quasi-syntax»: cf. RAFFMAN 1993: 434), but music has no semantics in a linguistic sense. Attempts, like Cooke's (COOKE 1959), to set up a musical dictionary, a one-to-one referential system between harmonic and melodic elements and emotional meanings, failed miserably. Hence, formalists maintain, although «music so often gives the strong impression of being meaningful», «it isn't about anything» (RAFFMAN 1993: 43, 41, cf. LERDAHL, JACKENDOFF 1983: 5-6).

As Peter Kivy, following Eduard Hanslick (HANSLICK 1986), notably argued, music does not refer to things and concepts, as language does; it cannot say anything regarding anything (KIVY 1990, 2002). The information music may convey is structural and intra-musical or intrinsic (see MEYER 1956, NATTIEZ 1976, GREEN 2005, KOOPMAN, DAVIES 2001), because it concerns exclusively the articulation of musical dynamic structures in relation to listeners' expectations accordingly to the operational rules valid in given cultural contexts. You may want to call it "meaning", but it is very different from the referential meaning words and propositions are endowed with. Hence, the formalist conclusion: music's value does not depend on an alleged capacity to convey meaningful messages, but in its playful sonic forms.

1.2. Against Musical Formalism

Formalists highlight the differences between music and language, and rightly so. The similarities and the analogies between music and language notwithstanding, they are different. Music lacks the referential power of language. So, when, longer than 10 years ago, I was preparing my Italian translation of Peter Kivy's Introduction to a philosophy of music, I found his arguments clear and reasonable. Kivy had good points, indeed.

However, despite how compelling Kivy's ideas sounded to me, I was not completely satisfied by his radical rejection of the idea of musical meaning. The fact that music does not refer, as language does, to things and concepts, does this really entail that music has no meaning?

A first doubt toward the formalist stance is this: the refusal of musical meaning seems to underestimate that music is the art of sounds. And it is fairly plausible to claim that art is a practice by means of which people take stances toward the natural and historical-social world as well as toward human life (see BERTRAM 2014). The experience of art involves sensory enjoyment, but stimulates also our cognitive

² ROUSSEAU 1993, DARWIN 1981, SPENCER 1857, MOLINO 2000, BROWN 2000, MITHEN 2005, CROSS, MORLEY 2009.

³ Further objections are that that (instrumental) music is not a language, because (1) music is repetitive in a way language is not and because (2) music cannot be translated the same way, for example, an English utterance can be translated into an Italian or a Chinese one. See KIVY 1990, KIVY 2002.

⁴ Conversely, Stephen Davies thinks that music has not syntax, because it is not a language. Nonetheless, he claims, it «might possess meaning in the sense that it presents a content that invites understanding» (DAVIES 1994: 24).

capacities: it demands understanding and requires consideration of cultural contexts and practices. This understanding articulates itself through production and circulation of meaning(s)⁵. Therefore, while sounds may have no meaning (as it certainly also may have, for example by working as signal, as alarm clocks' sounds do), music seems to differ from other sound events in that sounds are not meaningful, *per se*, while music, as art, organizes sounds in ways that, especially due to music's expressive power, are meaningful. Which is to say: when sounds are not heard and understood as meaningful, they are not music⁶.

Formalists may insist further that sounds, *per se*, carry no meaning. So instrumental music, which does not use words, but only sounds, is not meaningful as, for instance, literature is (see KIVY 1997, KIVY 2009). Instrumental music is not a meaningful art, because, differently from words, simple sounds convey no messages. Music is sonic wallpaper: surely it is art, but a decorative one.

Many scholars resist, however, the idea that musical sounds convey no message and consider the formalist rejection of musical meaning as not convincing. Letting aside the obvious observation that simple sounds often have referential functions in certain practical contexts (as in the case of the ambulance siren or the school bell), sounds may have a motivational power. Environmental sounds (are perceived both by human beings and animals as signals providing information by means of indicating the presence of environmental sound sources (which, for example, may be threatening or attractive) and they may be used for regulating the behavior of human beings and animals (cf. CROSS 2008). For example, rapid sequences of loud sounds with high pitches signal that an energized sender is nearby, arousing (say) fear and inducing the hearer to run away. So sounds are perceived as specifying their sources (see CLARKE 2005), thereby influencing human behavior.

As a matter of fact, human beings take usually advantage of the natural, evolutionarily-wired power of sounds to induce behavioral reactions. Recently, scientific research has been devoted to explain music's affective contagious powers⁷, i.e. its capacity to arouse emotions and affects besides conscious attention, and musical entrainment (CROSS 2005, CROSS, MORLEY 2009, CHAUVIGNÉ *et al.* 2014), that is, the power of pulse and rhythm to synchronize listeners' movements, generating group behavior and reinforcing the compactness of social links (like in dance, march and other group activities).

More importantly, human beings engage in the activity of organizing non-linguistic sounds for communicating with each other. Empirical work has recently been directed to understand the «communicative musicality», i.e. the role played by natural human musical capacities to create and sustain social relationships, beginning with the interactions between newborns and caregivers, which occur thanks to the reciprocal manifestation of what Daniel Stern called «vital forms»: the dynamic gestalts of gestures and vocalizes through which proto-musical dialogues take place (MALLOCH, TREVARTHEN 2009, GRATIER, APTER-DANON 2009, STERN 2010, MEINI 2015).

Therefore, also musical sounds may have meaning in virtue of natural-environmental associations and may also be used for communicating. The communicative power of

⁵ This idea is elaborated by MCFEE 1997.

⁶ Different perspectives on this point are elaborated, for example, by ARBO 2013 and KRAMER 2011.

⁷ See DAVIES 2011a. The social dimension of musical contagion is explored by DENORA 2000.

music seems to be proved by the way in which musical abilities and resources are articulated and used in everyday situations for providing information, shaping emotions, and coordinating social interaction (BROWN 2000, MITHEN 2005, DISSANAYAKE 2009, CROSS, MORLEY 2009, PANKSEPP, TREVARTHEN 2009). All this indicates that music is, like language, a “communication tool” (cf. IMBERTY 2000). The way we use language in a discourse or a conversation for communicating is interestingly analogous to musical communication — that is, to how human beings communicate through music. As Jean-Julien Aucouturier and Clément Canonne suggest, there is empirical data confirming that «music is a paradigmatically social activity which, as such, involves not only the outward expression of individual mental states, but also direct communication acts through the intentional use of musical sounds» (AUCOUTURIER, CANONNE 2017: 106).

It seems that the possibility to hear music as meaningful is partly due precisely to its capacity to generate relationships, induce or promote social interactions and communicate. This is clear in all musical practices requiring active co-participation, that show that music is a powerful medium for exercising shared intentionality and interactional abilities⁸, which arguably are preconditions for the structuration of symbolic systems (cf. TOMASELLO 1999, TOMASELLO 2008). Yet, even in the “contemplative” listening, which is typical for the Western experience of music in the concert hall, music communicational power is fostered (at least implicitly) by music’s link to emotions and feelings, which is one of the main sources of the aesthetic pleasure of music listening⁹. The musical flow engenders processes of expectation and anticipation (MEYER 1956, HURON 2006, NEGRETTO 2010), presenting sonic images of movement and energy as well as expressing and arousing emotions, thereby showing traces of human behavior.

The defense of musical meaning against the formalist attack has usually been based especially on music’s capacity to sonically portray and induce dynamic processes and on its (natural, social, and subjective) relation with emotions. In spite of not referring to things and concepts by denotation, as language does, music presents, through sonic exemplification, the dynamics of the emotional life, thereby connoting concepts and events of the world¹⁰. Listeners can indeed perceive music as meaningful, and music has a semantic dimension or, at least, a «quasi-semantics» (RAFFMAN 1993: 41), because sounds and their (simultaneous or subsequent) combinations are heard as possessing and indicating features of dynamic processes

⁸ Different cognitive perspectives on musical joint action are elaborated by KELLER 2008 and by SCHIAVIO, HØFFDING 2015.

⁹ For a survey of the philosophical debate on music and emotions see BERTINETTO 2017: 149-230. For the psychological research on the topic see JUSLIN, SLOBODA 2010.

¹⁰ In order to precise in which sense music can convey meaning, Ian Cross suggested to applying to music Peirce’s classification of signs in *icons*, *indexes* and *symbols* (PEIRCE 1965; see CROSS 2008: 158). It is a useful suggestion. Briefly, an *icon* represents in virtue of formal similarity to what it stands for (hence portraits are exemplarily icons); an *index* signifies a referent because it is factually (causally or conventionally) correlated to it and this correlation is recognized thanks to prior association (the typical example being the weathercock); finally, *symbols* are signs that, like words of a natural language, are embedded in a formal system and are conventionally related to referents. It can be argued, that musical sounds convey meaning when they work as icons (sonically portraying something or someone) and indexes (like the musical themes indicating the characters of Prokofiev’s musical poem *Peter and the Wolf*, 1936). However, due to the social and personal sources of musical meanings, in particular contexts musical sounds may also mean as symbols.

and relations, thereby (at least metaphorically) exemplifying them¹¹. Thanks to its melodic, harmonic, rhythmic, and other tonal features (intonation, time changes, thematic contrasts, and timbre combinations), music produces, through patterned sounds, sonic analogs of dynamic processes linked to human experience¹²: spatial movements (ascent, descent, expansion, contraction...), emotional states and processes (joy, obsession, melancholy...), bodily gestures, and actions (ZBIKOWSKI 2009¹³)¹⁴.

In particular, we perceive a *musical gesture* when we interpret a musical passage as marked by a (mostly expressive) intentionality, i.e. as significant, and when its meaning is emergent, in that it is more than the sum of its components (HATTEN 2006). Like gestures of bodily language, musical gestures are understood as embodying affective, emotional and cognitive contents (related in particular to social modes of belonging) that affords behavioral responses, inviting to interaction (cf. KÜHL 2011). In the case of a contemplative listening this interaction is usually offline: it is imaginative and interpretative. Nonetheless, since listeners react emotionally to actions and emotions sonically presented and expressed by music, listening to music is an exercise in sociability. Music's dynamic features specify processes we usually attribute to living beings we interact with. So it is plausible that we hear music as expressive and meaningful, when we recognize in music's dynamic features *personal* traits, i.e. when we hear it as sonically evoking living beings that move, act, interact, express themselves, and communicate with each other and with listeners.

I take this to be the core idea of the so called theory of the musical *persona* endorsed by philosophers (see in particular LEVINSON 2006, ROBINSON 2005, RINDERLE 2010), musicologists (HATTEN 2010, MONAHAN 2013), anthropologists (BLACKING 1973), and psychologists (WATT, ASH 1998, TOLBERT 2001, BRANDT 2009), who defend, with experimental support, that «we hear music as the socially meaningful presence of another person» (TOLBERT 2001: 86), a «virtual person» (WATT, ASH 1998: 49). Hence, also when we do not participate to musical events while literally moving or otherwise interacting with musicians and other

¹¹ See GOODMAN 1968 for the notion of *exemplification*. La Matina (2006) interestingly adopts it for explaining musical meaning.

¹² Susanne Langer (LANGER 1942, see DAVIES 1994: 123-134) is credited with the idea that music is able to *iconically* present emotions through sounds: it presents emotions not by discursively relating to them, but representing their kinetic characteristics. Although Langer's view has been much discussed and criticized, it seems nonetheless plausible to accept that music has a capacity to sonically present movement, thereby offering a sonic representation of the emotional life, which seems to be empirically supported by recent psychological research (cf. JUSLIN, SLOBODA 2010, MEINI 2015).

¹³ Unlike linguistic signs, which can be replaced by others to refer to objects, and like expressive gestures of the body, musical gestures cannot be arbitrarily replaced by other gestures: they are part of what they express.

¹⁴ Probably due to music's power to present dynamic processes through articulated sounds, Mary Higgins (2012: 79) claims that «music has affinity with a particular part of speech, specifically the preposition. Sequences of music have directionality, and the various ways this directionality proceeds might be described in terms of prepositions (above, beyond, during, etc.).» However, she adds, «[e]ven if music might be compared to a language of prepositions, this would be a language in a very strange sense. A language with only one part of speech is unlike the languages people speak». I do not find this suggestion particularly convincing. I do not hear music in terms of prepositions, though I may understand the communicational power of music, hearing it in terms of phrases, discourses or conversations.

listeners, the communicational interaction being here a virtual, rather than an actual, one, the musical experience is an exercise in social participation and communication. All this restores the idea of musical meaning: music evokes things and concepts, not only because articulated sounds can onomatopoeically reproduce the sounds produced by things and living beings, but because it presents iconically emotions and patterns of movement, evoking objects, situations, events, or living beings (and their relations) by means of representing their acoustic or kinetic features, also in virtue of cultural and contextual associations implemented indexically (see KARBUSICKY 1986, CROSS 2008, RAFFMAN 1993). Moreover, since music extends temporally, musical development may be interpreted as a *narrative* (cf. MAUS 1997, LEVINSON 2006).

1.3. The Indeterminacy of Musical Meaning

Formalists are not satisfied with the mentioned attempts of explaining how music may have meaning (see, paradigmatically, KIVY 1990, KIVY 2002). Even granted that music may, in the one or the other way, arouse and express emotions and iconically presents movement, the defense of musical meaning fails, because, formalists insist, the power of music to refer to persons, objects, and events is very poor. The alleged “meaning” of musical sonic representations is too vague and abstract and, differently from linguistic symbols, musical symbols are arbitrary and idiosyncratic. Music does not possess meaning as resulting from intentional stipulation in a symbolic system, like in natural languages. Musical meaning (as argued by DAVIES 1994: 29-49) might be at best the result of a deliberate stipulation of reference in isolated and not-generalizable occurrences¹⁵. This is the reason why, for example, reading together the notes, in the German designation, of the subject of the last fugue of the *Art of the fugue* (B-A-C-H) listeners can discover the composer’s signature.

But, as precisely this famous example shows, music, formalists will want to maintain, has meaning only thanks to stipulative associations and, in particular, in virtue of specification provided by other media, especially language and visual images. The fact that musical patterns may associatively get an indexical value, thereby referring indicatively to things and persons¹⁶, when they are combined with words and images, scores no points for the defense of *musical* meaning. It rather proves that music *alone* is not meaningful. So, when we attach meaning to a musical piece, this is due to extra-musical reasons and, especially, to our personal experience. For instance, lovers may find a particular meaning in a musical piece. The song may signify (for them) the beginning of (their) romantic love: however, this meaning is private, in that it is not generally valid. Others may understand the piece differently, without linking it to a personal experience of love. Hence, the meaning is not of the music, but it is simply projected on it, the same way we may project meaning to objects in virtue of their association with our subjective experiences¹⁷.

At this point also non-formalists just have to bite the bullets and admit the *indeterminacy of musical meaning*. Music “aboutness” is «floating», i.e. not fixed

¹⁵ Yet, Davies things, speaking of musical meaning in this sense does not offer a reason for understanding music as language.

¹⁶ There are legions of examples. You can think at the famous notes indicating the shark in Steven Spielberg’s movie *Jaw* (1975) or at the leitmotiv indicating Siegfried in Wagner’s *Ring*.

¹⁷ In the philosophical literature, this case is known as the *our song phenomenon*.

and unequivocally determined (see CROSS 2005, CROSS 2008, CROSS, MORLEY 2009). As defended by Leonard Meyer (1956: 70), music presents, by means of exemplifying its properties, a generic content, a «connotative complex». Hence, at this regard the formalist view is right: the referential capacity of music is vague and that attribution of meaning to music is a cultural, often a personal, affair. But is this a sufficient reason for justifying the strong *eliminativist* conclusion that music has no meaning?

Like other supporters of the thesis that music has (or may have) meaning, I argue that this claim is not justified, because the formalist objection against musical meaning seems to presuppose a *semanticist* view of meaning, which ignores the pragmatic dimension of language. I will elaborate on this view in the next section.

2. Sound Pragmatics

2.1. Pragmatics and Musical Meaning

Musical formalists think that linguistic meaning is determined and inter-subjectively sharable and that the reason why language is a communicational tool is that it is able to convey detailed information in a clear referential way. However, as Ridley (2004) pointed out, this view is based upon a semanticist conception according to which linguistic meaning is independent from the experiential, pragmatic, and cultural context it is inserted within. But pragmatic considerations of contexts of use seem to be required for specifying the specific content of an utterance. There is more than structure and denotation to language and the sense of what is communicated is determined contextually: it is evinced by interpretation in reference to contextual information (and, in particular, from what Paul Grice called «conversational implicatures»; cf. GRICE 1975)¹⁸. Moreover language is also a tool for performing effects in the world: *speaking is acting* (AUSTIN 1962, SEARLE 1969). We use language not only for representing objects and concepts but also in *illocutionary* ways, i.e. for intervening in the world, performing actions through the utterance (promising, questioning, confessing, menacing...), as well as in *perlocutionary* ways, i.e. for manipulating other people, thereby changing the context in which we act as speakers.

The consideration of pragmatics may considerably shorten the distance between music and language regarding the question of meaning¹⁹. On the one hand, music is, like language, a tool through which we communicate and we (inter-)act in the world. On the other hand, although musical meaning is often vague and subjective, it can, like semantic linguistic meaning, be contextually and pragmatically determined and

¹⁸ To put it simply, in order to understand what a speaker explicitly says, listeners must grasp what is implicated in her utterance. Hence, conversational implicatures are the pragmatic implications of speech acts. They are sentences that can be communicated in an utterance, and inferentially grasped, without being explicitly said, in virtue of some rules of conversational behavior. In other words, they are «inferences based on both the content of what has been said and some specific assumptions about the co-operative nature of ordinary verbal interaction» (LEVINSON 1983: 104, cf. RECANATI 2004: 80, BIANCHI 2006: 73).

¹⁹ Interestingly, for the present discussion, is that also the prosodic features of speech, such as intonation, are to be considered as part of linguistic pragmatics. The musicality of language is an important dimension of its communicational functions, since it allows to specifying the illocutionary and perlocutionary meaning of an utterance (cf. MITHEN 2005, BRANDT 2009, HAUSEN *et al.* 2013).

inter-subjectively shared. So, in this sense, musical and linguistic meaning are interestingly analogous.

Abstractly considered, the *floating* meaning of music is only *potential*, because of the indeterminacy of its aboutness. However, this *potential* meaning is *actualized* and determined pragmatically and contextually (see COOK 2001), i.e. through the particular use of the «connotative complex» evoked by music. It goes without saying that the precision with which the meaning of a linguistic utterance may be specified with reference to an object is higher than the referential precision of music: but also linguistic meaning is, although to a minor degree, undetermined and “floating” and is “fixed” pragmatically, thanks to contextual specifications.

Music is (differently) meaningful in the context of (different) experiences, uses and practices²⁰. The meaning of musical gestures is, for instance, based on cultural conventions, like the meaning of bodily gestures: abstracted from contexts, it is only potential and vague and it needs a context for being actualized and determined. The interpretation of sounds as gestures as well as the related understanding of its (expressive and connotative) meaning requires (the knowledge of) the context in which the gesture takes place. Otherwise listeners can hardly understand the gesture’s meaning. The point may be easily generalized. The semantic meaning of music *is* vague. It is actualized and determined contextually, i.e. pragmatically. It is “gathered” from the context in which music occurs and/or is experientially related to, while at the same time music contributes meaning to it (cf. CROSS, MORLEY 2009: 68).

2.2. Musical Pragmatics

In the previous sections I claimed that the potential, floating and ambiguous meaning of music, which is due to its power to sonically portray dynamic relations and emotions, is activated, determined, and specified contextually and pragmatically. This determining and activating specification, I will now defend, may be provided in different ways: by different subjects – a) composers, b) performers, c) listeners, d) critics – as well by other factors and, in particular, other media music may be joined with e).

a) Musical works may be understood as communicational actions accomplished by *composers* who may specify in different ways the meaning conveyed by music. For example, they may add a title or a program to their compositions, or simply publically declaring what their music is about, thereby generating contextual information that will restrict the interpretational range for understanding the content of the musical communication. So, for instance, the descriptive program of Ottorino Respighi’s *Le fontane di Roma* (1916) guides the interpretation of the meaning of the music: especially listeners who know the particular features of the four of Rome’s fountains musically depicted by Respighi may grasp the precise sound references to each of them. In particular, works composed for special occasions – such as masses, or other kinds of celebrations – specify their own referential context and show through their expressive musical features the communicational aims of composers, so that later performances may convey the composer’s message also by using the music in other circumstances (for example, performing *Missa in tempore belli*, composed by Haydn in 1796 at the time of the Napoleonic Wars, during World War

²⁰ Moreover the idiosyncratic quality of musical meaning may be a specific property of music, which *per se* does not rule out its meaningfulness (see HIGGINS 1997 and below § 2.2. c)).

II²¹).

More generally, musical sequences set in place contextual implications that generate expectations in listeners, accordingly to the cultural conventions of a musical practice. Composers rely on those cultural conventions supposedly shared by the potential audience of the work²². So, as in linguistic communication, the success of a musical work largely depends on listeners' knowledge of those conventions and, in general, of the historical context of the composition. At this regard Grice's conception of the pragmatic preconditions for a good communication are applicable to music. According to him (GRICE 1975, cf. BIANCHI 2006, SPERBER, WILSON 1986) linguistic communication is ideally based on *maxims of cooperation* (such as "give the right amount of information", "avoid false information", "be relevant", "be perspicuous", "follow turn-taking rules", etc.) speakers resort to in order to show their communicative intentions. Analogous maxims regulate musical communication and composers may use them in various ways, even when they violate them. For example, by disregarding syntactical conventions valid in a specific cultural context, composers may play with listeners' expectations, with the intentional aim of generating emotional and humoristic effects (surprise, excitement, exhilaration, etc.), thereby producing musical meaning.

It is for example the case of Joseph Haydn's *String Quartet in Eb op. 33 n. 2*, largely discussed by London (1996). This piece is known as *The Joke*. The title is justified, because its last movement ends abruptly with a phrase previously used for the beginning of the melodic articulation. This musical gesture has the intended performative effect of making listeners smile. Surprised by the structural strangeness of the piece, listeners can get the composer's joke and sympathize with him, understanding his musical move as funny, if they recognize the pragmatic implication of his "utterance", i.e. if they grasp what he intentionally communicates by means of flouting shared structural musical conventions (cf. RECANATI 2004: 70, BIANCHI 2006: 64-70). Hence, following London (1996), it can be argued that instrumental music can exercise at least communicational acts analogous to speech acts such as apologizing, commending, condoling, congratulating, etc., that have to do with social behavior, attitudes, habits, and the expressions of feelings (Austin labeled them *behabitive*). They do not necessarily require propositional content, are performed in the present tense (or without relation to verbal tense), do not require a specific institutional role for the speaker, and are marked by paralinguistic and "musical" features such as intonation. Generally speaking, as London writes (2008: 262), «a conversational analysis may well be warranted for any piece of music that is expressive and gives rise to an affective response»²³.

b) Pragmatic and conversational analysis works especially well for musical *performances* that, as such, are properly to be understood as communicative *actions*. Performances of musical works may help composers to fulfill their communicative intentions, by means of conveying their message to the audience. Since music is a performing art, and performance (or playback) is the unavoidable medium for

²¹ The example is LONDON's 2008: 261.

²² See LEWIS 2002 for a classical study on conventions as behavioral regularities that, in virtue of common knowledge, and shared preferences, solve practical coordination problems.

²³ In virtue of the similitude between musical structure and phonological Gestalt of linguistic speech acts, wordless music may also suggest other kinds of communicational acts the same way we may understand the speech act performed even when we cannot understand the foreign language in which the communication occurs.

hearing a composition, the social setting and the performing context of music are particularly relevant for specifying musical meaning. The relation between composition and performance is analogous to the one between a sentence (as type) and the performance of uttering it (as token of the sentence). Letting aside ontological considerations²⁴, the point is that the same way the actual meaning of a linguistic sentence is specified pragmatically, in the context of its use in the act of uttering it, the meaning of a composition is specified pragmatically, in the context of its use in the act of performing it. The “floating” musical meaning of a composition is determined by interpreters’ renditions in (relation to) particular contexts.

Not only that. While *interpreting* a musical piece (for example by playing it in a particular expressive way), performers not only have to adapt it to the performance situation, but also, in some sense, *appropriate* the piece. So the way they convey a composer’s musical message may transform it to different degree. It is like the performance of a theatrical piece. As ancient pieces are interpretively adapted to the present time of their performance, musical performances are interpretive adaptations that generate meaning (more or less) in reference to the performance historical and social context (see HAMILTON 2007; for a discussion see DAVIES 2011b: 113-120).

Obviously, musical interpretations may sound wrong: for example, instead of communicating the expressive qualities of the piece, it violates its expressive features, resulting in something false and/or nonsensical. In the same way, the use of an utterance may simply fail to make sense, instead of generating meaning. Yet both linguistic and musical violations may also be creative of new meanings. Linguistically, this is particularly evident in poetry. In music, this is particularly evident in those cases when the performance explicitly alters the way a composition is commonly understood, while appropriating the piece in a different context. In the literature about Afro-American culture this practice of appropriation is interestingly known as *signifyin’* (cf. GATES 1989), meaning that musicians “converse” with an inherited musical material that is recaptured, in a mixed attitude of complicity and distancing, through reverential quotations or, conversely, by irreverent gestures of irony, parody, sarcasm, or open criticism. Here are some examples.

Sidney Bechet signifies on George Gershwin’s composition *Summertime* (from *Porgy and Bess*, 1935) in the version performed for a Blue Note 78 record in June 1939. Here, after the statement of *Summertime*’s theme, Bechet quotes the *Miserere* from Giuseppe Verdi’s *Trovatore*, announcing the hanging of Leonora’s lover. *Porgy and Bess* is «a controversial opera unrealistically depicting black life in the slums of a Southern town» (MARTINELLI 2009: 4). By adding Verdi’s bitter aria to Gershwin’s idyllic song, «Bechet is not only taking advantage of musical similarities, fitting the familiar *Trovatore* melody on the *Summertime* chords, but also covertly expressing, like the black performers in the choir of Gershwin’s opera, a direct and severe criticism to it» (Ivi: 5).

John Coltrane’s famous version of *My Favorite Things* offers another interesting case. Coltrane’s rendition (1960) of the Broadway Waltz (1959) does not only change the formal structure of the song, but transforms radically its expressivity. In 1960 the escalation in the Civil Rights movement was strong and Coltrane was aware of the *kitsch* insistence on white things in the song’s text («girls in white dresses»,

²⁴ The *type/token distinction* (a terminology introduced by Charles Sanders Pierce) offers one of the most discussed model of musical ontology, which I critically discussed in BERTINETTO 2012 and BERTINETTO 2016a.

«cream-colored ponies», «snowflakes on eyelashes», «silver white winters»). His way of playing shows irony about the cultural connotations of the original song (MONSON 1996: 98-123).

Another example comes from rock music: Jimmy Hendrix's performance of the American national Anthem at Woodstock (1969). Here Hendrix appropriated the musical piece (based on a precedent English song), re-contextualizing its meaning through sound pragmatic references to the Vietnam war, that was going on at that time. Through pragmatic implications, listeners present at the performance could understand the musical message: when the music sonically depicted the dropping of bombs, they did not think at the British bombing Fort McHenry in 1814, but at Americans bombing Vietnam in 1969. The social and political meaning of the performance is generated pragmatically, and this does not necessarily need the reference to texts, as strict formalists may object in relation to the presented cases of song performances. Theodor Gracyk writes at this regard:

Hendrix's arrangement of the music introduces musical material for pragmatic interpretation without relying on audience knowledge of an associated English text. [...] Independent of words, *musical* details contribute to a performance's pragmatic content through both conventional and unconventional implicature (for example, [...] the "pictured" bombs [...]).
[...] Hendrix's Woodstock performance stands to the song as an utterance of a sentence stands to that sentence. Hence, he could exploit the cultural context of 1969 in order to generate pragmatic implications that are not part of the musical work (GRACYK 2013: 28).

So, a musical piece may be used (and abused) by performances for reasons others than conveying truthfully the (alleged) composers' musical meaning. Thereby, new musical meaning is pragmatically generated. Often by means of relying on the expressive features of the piece and on the musical education and tastes of receivers, a pragmatic meaning is produced which may have very little relation with the original connotations and the cultural context of the composition. Mozart's music may be used for entertaining passengers of an elevator or as soundtrack of a commercial. Nicholas Cook elaborates at this regards on the way the «energetic and expressive attributes» (power, verve and grace) of the *Marriage of Figaro* overture (1786) are transferred to a French car, «endowing it with connotations of prestige and of high culture [...]. The music, so to speak, seeks out the qualities of the car, and conversely the image of the speeding [car] might be said to interpret the music» (COOK 2001: 180), generating a composite, multimediatic meaning (see below e)). But Mozart may also be (ab-)used for annoying young boys in a parking lot, thereby making them going away²⁵. Analogously, a Chopin's piece, a Nirvana's song or a specific interpretation of a jazz standard performed by Miles Davis may be played back, in given situations and dependently from the addressed person, as valentines, i.e. to say "I love you" to somebody and to request a desired sentimental response (cf. LONDON 2008).

To sum up, a composition may be performed in ways such to provide it with connotations not possibly foreseen by composers, especially by means of referring to the occasion and the social-historical context of the performance and of using it for conveying messages to specific listeners.

²⁵ The example is discussed by LONDON 2008.

c) Listeners' personal experience is actually key for evincing meanings from musical events. Even though the meaning specification of the context is weak, as it happens in the case of linguistic meaning, listeners' personal experience impacts on their understanding of the music. A theoretical suggestion offered by Kendall Walton is useful at this regard (WALTON 1988, WALTON 1994). According to him, the meaning suggested by music is of a general nature. Music indicates a concept without exactly representing specific cases. It can suggest the idea of patience, ascension, struggle, return, etc., without referring to particular cases of patience, ascent, struggle, return, etc. At this regard, musical meaning is, as we have seen, ambiguous, vague, and floating. A musical passage, for instance, can not be related to the war of Troy or to war in general, but to "struggle", a general concept encompassing different kinds and experiences of struggle: political and military struggles, the struggle against poverty, the conflict between personal desire and prudent judgment, etc. As just explained, the context (a title, a text, a particular interpretation offered by performers, etc.) may specify the meaning indicated by the musical passage, offering information supporting one or the other interpretation (for example: a certain history or a specific experience), thereby activating and determining the meaning of music.

However, it may be the case that contextual elements are too poor for specifying a determined content. Formalists may resort to this situation in order to reinforce their position. But Walton's proposal offers a way out for non-formalists. Listeners may determine musical meaning imaginatively, even when it is not specified and activated by contextual use. For, especially if they have some previous experiential knowledge of the kind of music they are hearing, they are prompted by the structural features of the heard sounds and dynamic sound relations to imagine the details of the ideas they generally connote. Due to music temporal development, listeners build narratives by means of which they understand musical dynamic structures and their expressive features, for example interpreting them through concepts such as "struggle", "triumph", etc. (see also SLOBODA 1985). In this way, listeners imagine characters, situations, events that fill the general concepts exemplified by the musical features perceived while hearing. So, one way for grasping musical meaning is to assign music a sense, a direction, through the imaginative "filling" of the musical "abstract" structures. These interpretations put meaning into action (cf. KRAMER 2001: 7). Surely, also due to their specific cultural backgrounds, different listeners probably determine the floating meaning of music in different ways and, so, interpretative conflicts may arise; however, it is then possible to share the different interpretations inter-subjectively, discussing their validity, relevance and pertinence, as it happens regarding any work of art.

d) This is the specific job of a special kind of listeners: musical *critics*. Resorting to sources of different kinds (composers' statements, comparisons between musical works, cultural connections, etc.), they make sense of the music, exploring its particular expressivity, discovering possible narratives, and offering guides for the listening. These guides are linguistic paraphrases of musical events. They are interpretations: (often written) speech acts that introduce music in cultural discourses, generating (and showing) possible ways to grasp contents from music and to understand them. In so doing, they acquire the function of contextual elements, determining, in debatable ways, the floating musical meaning.

e) Generally speaking, musical actualized meaning emerges as result of pragmatic acts of interpretation performed by different subjects (KRAMER 2001: 71). However, in addition to the pragmatic-contextual specifications provided by

composers, performers and listeners, meaning is also generated *intermedially*, i.e. through the combination of music with different media, especially images and words. It is not only the case, as musical formalists seem to think (see KIVY 2002: 160-201), that music gains meaning thanks to the combination with images and texts. Also images and texts receive meanings by their combination with music. This is another case of contextualization: through these combinations a context is provided in virtue of which meaning is creatively generated by musically qualifying texts and images and, *viceversa*, by visually and linguistically qualifying music. While expressively “coloring” the semantic and representational features of texts and images, the sonic qualities of music connote, and impact upon, them, and, reciprocally, the semantic and representational features of texts and images specify and determine the floating aboutness of music. You may for example think about how music can indicate how to interpret the moving images and the words of fictional and documentary movies as well of computer games.

3. The Emergentist View of Musical Meaning

3.1. Conversational Emergentism

According to a pragmatic or contextualist view of linguistic meaning, the meaning of a sentence is determined through its use in, as well as its impact on, a specific context and/or in/on a specific practice. However, that the meaning of an utterance is determined through inference of speaker’s intentions from contextually valid conventions in reference to practices is only partially true. Practices and contexts are not to be conceived of exclusively in terms of unchanging codes to be applied for grasping specific meanings of utterances in reference to speakers’ intentions²⁶. They are not fixed entities; they change as they are (trans-)formed by uses (including speech acts). Referring to practices we may understand specific meanings as uses of language; but precisely those uses constitute practices as such, while thereby (trans-)forming them²⁷.

This amounts to saying: linguistic meaning *emerges* (in a potentially creative way) upon the use of language in practices which, in turn, are (trans-)formed by the uses of language. Meaning is not only the result of inferences from previous knowledge, but a (more or less) creative achievement²⁸. It *emerges* from previous uses.²⁹ Hence,

²⁶ Anti-intentionalist and emergentist approaches to social interaction and communication are being developed in the embodied cognition research of social neurosciences. Cf. MORGANTI *et al.* 2008.

²⁷ I think that this is more or less the meaning of Wittgenstein’s claim «we make up the rule as we go along» (cf. WITTGENSTEIN 1953: § 83). In De Saussure’s terms, we may say that the «*langue*» (the linguistic code) lives through the «*parole*» (the utterance), but is also changed by the «*parole*», whose use it is not deducible by the «*langue*». (Cf. SAUSSURE 1916).

²⁸ Recanati is somehow going in this direction, when, interestingly applying a musical term to linguistic meaning, he claims that the understanding of meaning may require a creative *modulation*: «to determine a suitable sense for complex expressions, we need to go beyond the meaning of individual words and creatively enrich or otherwise adjust what we are given in virtue purely of linguistic meaning» (RECANATI 2004: 139). Those adjustments, considered along a large temporal scale, may explain also some transformations of language (cf. MITHEN 2005: 17-18). Tomasello’s sociopragmatics offers a scientific theoretical frame for explaining the creative inter-subjective development (and learning) of language (see TOMASELLO 2008).

²⁹ The notion of the «*emergent*» derives from Mead. He wrote: «The emergent when it appears is always found to follow from the past, but before it appears, it does not, by definition, follow from the

as Richard K. Sawyer maintains (SAWYER 2005), linguistic meaning is a matter of performance, not (only) of competence. Likewise, contextualism is a theory of meaning generation, accounting for the dynamic inter-relation between practices and meanings. Meaning is understood not only because speakers and hearers know how to apply linguistic tools and rules, but also because they act through language, (*trans-*)*forming* linguistic tools and rules.

In a sense, the use of language is always conversational and dialogic. Linguistic meaning does not only depend from acknowledging speakers' intentions, by means of connecting the utterance to the context of use through pragmatic implicatures (as proposed by GRICE 1975, cf. LEVINSON 1983, BIANCHI 2006): the meaning of an utterance is rather *generated through* communicational interactions. That what generates meaning is not the speaker's intention, but the intention *grasped*, processed, interpreted, and (trans-)formed by receivers according to the way they appropriate, and in this way (trans-)form, social and linguistic practices. To put it bluntly, meaning emerges through social and linguistic interactions.

Following Sawyer, this view may be called *emergentism*. As the development of conversations exemplarily shows, its point is this: on the one hand, denotational reference depends on pragmatic presuppositions (such as indexical entailment, speakers' roles, conversational maxims, topic structure, and speech style), but, on the other hand, participants to linguistic interactions may transform the presuppositions in virtue of the impact of their speech acts on the normativity of the linguistic interaction.

In other words, *the whole meaning of linguistic interactions such as conversations is generated autopoietically through the interaction itself*³⁰: it *emerges* from it. As Sawyer claims,

a conversation is collectively created and emerges from the actions of everyone present. In every conversation, we negotiate all of the properties of the encounter – where the conversation will go, what kind of conversation we're having, what our social relationship is, when it will end (SAWYER 2001: 19, SAWYER 2003: 108).

While denotational values are presupposed as well as generated pragmatically in reference to the contexts, the development of the conversation may change them creatively in retrospect. The semantic context is continuously shifting thanks to pragmatic factors, because words receptive interpretation and active generation of meaning are coincident. The sense of speaker A's utterance is shaped, retroactively, through speaker B's answer: the way B answers to what A said is an *interpretation* of the meaning of what A said, that (trans-)forms it. To sum up: meanings of speech acts emerge through speakers' linguistic interactions.

3.2. Musical Emergent Meaning

This, I contend, happens also in musical interactions. A musical piece gets its meaning not only in virtue of, say, expressive features at the level of the composition, but as a consequence of listeners' emotional responses, mediated by

past» (MEAD 1932: 2).

³⁰ The term «autopoiesis» means “self-creation” and has been firstly used for labeling the process by means of which living systems reproduce themselves: they generate their own components that, recursively, are involved in the production of the system (Cf. MATURANA, VARELA 1980).

performers' interpretations as well as by musical criticism and by the context of the performance. Musical actualized meaning is the results of social negotiations that determine the potential, floating meaning of sound structures. It is not arbitrary, but emergent from the interactions between the composition (both as sound structure and as cultural construction), the interpretative performance (as expressive rendition and as communicational act) and the cultural context of the performance (including intermedial associations and musical criticism). As Nicholas Cook writes:

As constructed in performance, then, meaning is emergent: it is not reproduced in but created through the act of the performance. [...] For [...] the material traces of music support a range of possible meanings, and [...] they can be thought of as bundles comprised of an indefinite number of attributes from which different selections will be made within different cultural traditions, or on different occasions of interpretations (COOK 2001: 179).

Against the formalist claim that pure, instrumental music (Kivy's "music alone") has no meaning, drawing on pragmatics it can be argued that *music is never alone*. The same way linguistic meaning is always contextual, Cook continues, music

[...] is always received in a discursive context, and [it] is through the interaction of music and interpreter, text and context, that meaning is constructed, as a result of which the meaning attributed to any given material trace [for example a sound structure] will vary according to the circumstances of its reception. In this way it is wrong to speak of music *having* particular meanings; rather it has the potential for specific meanings to emerge under specific circumstances.

[I]n terms of the semiotic process, musical works are to be understood as bundles or collocations of attributes that may be variously selected, combined, and incorporated within any given actualization of the music's meaning. In other words, regarded as agents of meaning, musical works are unstable aggregates of potential signification (Ivi: 180, 188).

To recap: the potential of sound structures to sonically exemplify dynamic relations, emotions, gestures, and actions is responsible for the generation of indefinite, floating abstract musical meanings. Its contextual interpretations (including semantic associations established at the compositional level, for example by adding a narrative program) transform this «potential meaning» into «actualized meaning» (Ivi: 186). In this sense musical meaning emerges from, and is continuously (trans-)formed by, the context of musical interactions. Therefore, the «literal meaning» of a composition may be not only intentionally (trans-)formed, pragmatically, through its use by a performer (cf. LONDON 2008); more radically, the actualized meaning is determined and emerges performatively, as the music is performed and interpreted. So musical meaning emerges as the result of a conversational interaction between composers, performers, receivers, critics and contextual multimediatic factors. As such, the understanding of musical meaning does not depend on grasping composers' (and performers') intentions, but on the performative interaction in the context where music is experienced.

This idea may be articulated generally, in reference to artworks interpretation (cf. § 3.3.), and specifically, in reference to improvisation (cf. § 3.4.). Before concluding the paper, I will briefly discuss these points.

3.3. Conversational Emergentism in Artworks Interpretation

At the general level, and as a follow-up of the anti-formalist view of music as a meaningful art (cf. § 1.2.), it may be observed that the interpretation of musical meaning is a special case of the interpretation of artworks. As Noël Carroll argued in one of his most discussed papers, the interpretation of artworks may be conceived of in terms of a conversation between the receiver and the artist. In particular Carroll suggested that:

When we read a literary text or contemplate a painting, we enter a relationship with its creator that is roughly analogous to a conversation. Obviously, it is not as interactive as an ordinary conversation, for we are not receiving spontaneous feedback concerning our own responses. But just as an ordinary conversation gives us a stake in understanding our interlocutor, so does interaction with an artwork (CARROLL 1992: 117).

I think that Carroll is right in conceiving the interpretation of artworks as a kind of conversation. However, I do not endorse his conviction that the conversation is fulfilled, that is, the artwork's meaning is understood, only when interpreters grasp artist's intentions. For, as Andrew Huddleston has rightly observed (HUDDLESTON 2012), the idea that interpretation of artworks are like conversational interactions is right, but Carroll's Gricean intentionalism does not fit with "conversationalism". Intentionalism seems to justify a monologic view of art interpretation rather than a conversational one. Conversations are indeed not directed at grasping speakers' intentions, but require mutuality and proceeding besides initial artists' intentions. Conversational meaning ensues in an emergent way, through interactional communication between speakers. Hence, if we accept the idea that a (kind of) conversation takes place between artworks and interpreters, we have to understand differently the way the meaning of the artwork results from the conversational interaction: it is not product of artist's intentions (which actually are a private affair), but emerges through negotiations occurring within the receptional context, where the conversational interaction really takes place: it is the outcome of the way the message is understood and used in the interpretational context(s). This implies that the context of reception pragmatically enriches and (trans-)forms the artwork's meaning. Since interpretations are not only manifestations, but productive (trans-)formations of meanings, not only authors, artists, and composers, but also performers, readers, viewers, and listeners contribute to the artwork's meaning³¹. So, if the relation to an artwork is like a conversation, the artwork's meaning emerges, and is transformed, through each act of interpretation.

What holds in general for art, is true also for music: as we saw, musical meaning is not static and fixed, but changes dynamically through each performing, listening, and interpreting act in pragmatic relation to the particular context in which it happens. Performing arts, like music, are particularly interesting cases, at this regard, because here interpretations are offered not only by receivers (and critics), but also by performers, who interact conversationally with the piece they play.

³¹ This view has a Gadamerian "flavor", since Gadamer famously conceived of interpretation of artworks (and other texts) as a dialogue between artwork and interpreters, defending that the artwork's meaning is (trans-)formed through its *Wirkungsgeschichte*, i.e. through its interpretations (see GADAMER 1960: 162-384).

3.4. Emergentism in improvisational interactions

As I argued, musical meaning is generated pragmatically, in virtue of interpretations and uses that performatively *signify* on the compositions played. A special case is improvisation. While performing standard jazz, for instance, improvising performers interact conversationally with the piece on which they improvise, but, at the same time, they interact conversationally with each other. The musical meaning of the performance emerges through all those kinds of conversational interactions. This deserves attention, since artistic and, in particular, improvisational interactions are paradigmatic for the idea that musical meaning emerges in a pragmatic, interactive, and conversational way.

The point is that the activity of meaning generation and communication in a linguistic interaction such as a conversation is structurally analogous to what happens in a musical improvisational interaction. Moreover, both activities exemplify in the here and now of their occurrences the interactive generation, transformation, and circulation of linguistic and musical meaning on a larger temporal (historical) scale. As several musicians report (see BERLINER 1994), the musical interaction between improvisers is a kind of reciprocal communication. Especially improvisational music practices like jazz are dominated by the «phenomenology of *musical conversation*» (KRAUT 2005: 13), because the musical interaction between improvisers is a kind of conversation, it has a dialogic character. Reciprocally, conversations are collective improvisations (see SAWYER 2001, SAWYER 2003). Many properties of a conversation (social relationships, conversational paths, the ends and the kind of the conversation, etc.) are negotiated pragmatically during the conversation itself, so that the development of a conversation is of an autopoietic kind: the determined meaning of utterances is established through the communicational interactions. This is exactly what happens in an improvisation.

As in a conversation, the elements of a musical improvisation are not simply introduced in a well defined and pre-constituted frame in virtue of which they get significance in virtue of *pragmatic* or *indexical presupposition*, i.e. accordingly to already established contextual conventions of sign uses (like cultural rules of harmonic and rhythmic relations), remaining unchanged after their introduction. Rather, the sounds performed re-define (at least potentially) the frame they enter in in virtue of *indexical entailment*. That means: the use of signs creatively changes the context.³² Improvised musical elements acquire a certain (functional, expressive, connotational...) meaning thanks to contextual implicatures; but, once introduced as elements of the performance, they become parts of the evolving context, contributing to re-organizing it in virtue of *indexical entailment*. Hence, the context of the performance is an open and self-transforming system: it emerges dynamically and retroactively out of (relations between) unforeseen contingencies which feedback the system (cf. BERTINETTO 2016a: 263-276, NATOLI 2011, GAGEL 2004: 20).

Like speakers in a conversation, improvisers are constrained by the specific performance situation to which they have to adapt and are guided by *referents* (conceptual, cultural, social, technical, formal, and stylistic habits, conventions, and constraints), in virtue of which they shape expectations about the development of the

³² For the relation between *indexical presupposition* and *indexical entailment* see SILVERSTEIN 2003. SAWYER 1996 applied it to improvisational interaction.

performance and understand (more or less) what is going on³³. Thereby they are able to evaluate what they themselves and their fellow performers are doing. Moreover, like in speech, while musically interacting with each other, improvisers follow something like the Gricean conversational implicatures and cooperative maxims. Yet, again like speakers in a conversation, they also may intervene on the contextual constraints: the referential frame, that guides performers' and audience expectations and sets norms for the musical meaning of what is happening, is not stable and static. It is rather dynamic and changes (or may change) during the performance: in fact it *emerges* during the performance beyond performers' subjective intentions (see SAWYER 2001: 41-43, BERTRAM 2010). Sawyer explains:

Using Mead's notion of the emergent, we can characterize the process of improvisational creativity as follows. Performers are constrained to operate within the performance genre. A given act is more narrowly constrained by the emergent. The nature of this constraint is unique and specific to the performance and the moment of interaction. In improvisational genres, each performer is expected to contribute something original to the evolving emergent in each act, through the process of indexical entailment. In the choice of indexical entailment, performers are subject to the constraints of the emergent. In response to the performer's action, the other participants evaluate the act, and the subsequent interaction determines to what extent the indexical entailment resulting from the act affects the (still/always evolving) emergent. This 'evaluation' is often immediate and often not consciously goal-directed. A more skillful indexical entailment is more likely to enter the emergent, thus operating with more force on subsequent performance acts.

Thus, we have a continuing process: a performer, constrained by the collectively created emergent, originates an action with some indexical entailment; the interlocutors, through their responses in subsequent actions, collectively determine the extent to which this act enters the emergent; the new emergent then similarly constrains the subsequent performers. Throughout, the 'meta-constraint' of genre definition controls many properties of this interactional process: how much indexical entailment is considered acceptable, how performer's acts are allocated, how performers create acts which retain coherence with the emergent (SAWYER 1996: 279-280).

Therefore, value and meaning of every single piece of the whole performance is not definitive and fixed before the process, but depends upon the self-developing network of references. It is floating, because the referential context of the performance is continuously re-created during its generation. Every performance act acquires its meaning and, reciprocally, contributes creatively to the meaning of the whole process, in the course of the performance³⁴. Reciprocally, the meaning of the elements of the performance is established holistically through the performance itself. This means: the sense of the whole process emerges *autopoietically* through the whole process³⁵.

³³ Cf. PRESSING 1984,1998, GRATIER 2008. For further cognitivist investigation on the improvisational process see JOHNSON-LAIRD 2002; BERKOWITZ 2010.

³⁴ As I elaborated elsewhere, the meaning-generating role of "mistakes" is particularly important at this regard (BERTINETTO 2016b), in that in a musical improvisation, unexpected events that violate stylistic constraints and expectations may turn out to be source of musical creativity. Cf. WALTON *et al.* 2014.

³⁵ For a cognitivist account of the autopoietic dimension of improvisational interaction see WALTON

Again, this is like what happens in a conversation. Improvisers understand the meaning of a musical gesture not simply by recognizing the intentions of a fellow player, but when they are able to respond to that gesture in the right manner. Yet, the rightness of the response will be proved by further replies, the same way in conversations the determined meaning of what is said does not depend (exclusively) from the intentions of the speakers, but (also) from the general development of the interaction, contextual implicatures, social constraints, etc.³⁶

Conversations are pragmatic uses of languages. They are interactions in which communication is generated. As we have seen, musical meaning is generated communicatively through different musical actions. A composer communicates for instance by means of producing a notation that must be interpreted by performers relying on the conventions of musical practices and providing contextual information for determining the musical meaning. Performers communicate by means of interpreting a musical score, by means of *signifying* on a given piece, and by means of using the composition for communicating own messages in virtue of pragmatic and contextual implicatures.

Yet, the interplay of collective improvisation is particularly apt to show the interactive, conversational dimension of musical communication and the emergentist nature of musical meaning³⁷. Interactive improvisation exemplifies in the moment of the generation of music the pragmatic production of musical meaning and, in particular, the performative power of interpretation that actualizes and determines potential and floating musical meanings. Improvisations are real performative, conversational interactions in which performers' actions depend on (culturally grounded) expectations of what other agents will probably do and are, at the same time, interdependent from other agents' actual actions that may confirm or violate previous expectations, thereby generating unexpected and unforeseeable outcomes. Consequently, the meaning of each musical gesture is not only determined by the current cultural implicatures of a practice, but emerges on the musical interaction in virtue of "conversational" implicatures generated in and by the specific performance. The way improvisers B, C, etc. reacts to the sounds generated by A impinges on their significance, since the outcome of A's musical actions is conditioned by musical actions performed by of B, C, etc. (LEWIS 2002: 8)³⁸. To put it bluntly, in improvisation musical meaning is performatively generated through the interactive music making: meaning circulates and is emergently (trans-)formed through performative interactions between performers in relation to the particular situation of the performance.

et al. 2014.

³⁶ Cf. SAWYER 1996: 10: «Each performance act is subject to a variety of interactional forces: (1) the performer of the act, who contributes something new to the flow of interaction through indexical entailment; (2) the other participants in interaction; (3) the definition/constraints of the performance genre; (4) the independent regimenting force operating on the act which derives from the flow of the prior interaction, and constitutes the indexical presuppositions of the act [...]».

³⁷ By the way, the autopoietic normativity of improvisation, in which each act gets its meaning through the interpretive reactions of others acts, and which, therefore, is structurally similar to the development of conversations, may be taken as paradigm of art interpretation (see BERTRAM 2014), and this confirms the force of the conversational, but anti-intentionalist, view of art interpretation discussed above (§ 3.3.).

³⁸ For example a musical phrase played by the pianist may afford the answer of the drummer, that performatively gives it a certain sense; the saxophonist may differently react to the previous interaction, thereby (trans)-forming again its significance.

So, the way improvising performers coordinate with each others, thereby developing a shared intentionality, is analogous to processes of linguistic conversation pragmatics, although their phenomenology may differ³⁹, and although the meaning emerging from the improvising interaction is rather of an exemplificational, not of a referential, sort, in that, providing sonic images of exercises of interactive communicational abilities, it is a structural analogous of the process of meaning emergence in a conversation.

Nonetheless, as I have previously maintained, there are different kinds of musical actions: in particular, (1) actions and gestures suggested by music which embodies personal traits generating virtual communicational interactions (§ 1.2.); (2) communicational actions accomplished by persons (composers, performers, listeners...) through or with music (§ 2.2.). In musical improvisation both kinds of action may coincide. The dynamic gestures *iconically* embodied by musical sounds may express real communicational interactions between performers, besides a mere structural analogy. So, the social interactive dynamics occurring in a group improvisation support the idea that music making is used for communicating and generating social relationships and that we listen to music as embodying and expressing communicational interactions between (imaginary or real) agents.

This, in turn, reinforces the analogy between music and language, providing a way to defend, against the formalist challenge, the plausibility of musical meaning recurring to a sound pragmatic and emergentist account.

4. Conclusion

In this paper I have proposed a pragmatic and emergentist account of musical meaning. Music presents sonic images of dynamic relations and induces movements in hearers, expressing and arousing emotions, and embodying personal traits. Therefore it possesses a connotational, potential, and floating meaning which is determined and activated by the way music is used, in virtue of pragmatic connections, contextual references, as well as cultural and intermedial associations. In particular, meaning emerges through conversational interactions between different agents: persons (composers, performers, listeners, and critics), other media (images and texts), cultural objects (like musical works), and contexts (of compositions and, especially, of performances).

In musical improvisation all these agents may collaborate for producing music and musical meaning. Here, performers are, at the same time, composers that interact interpretatively with each others, with the performing situation, with musical practices, and, possibly, with an extant composition, upon which they improvise. In this sense, improvisation is like a conversation: between performers, with the performing context and the audience, with a musical practice and, possibly, with a

³⁹ Modalities for showing consent or dissent musically are for example different from the ways we show agreement or disagreement in speech. In speech, «one is expected to give floor when agreeing and take the floor when contradicting», while in an experiment turned out that in musical improvisational interaction «sustained playing together with the interlocutor was a typical feature of affiliatory behaviours, and well-segregated turn-taking [seems to be] associated with disdain [...]. In addition, interacting musicians systematically manipulated the complementary or contrasting character of their synchronous signaling to suggest e.g. an initial conflict being resolved in a conciliatory manner [...]. On the contrary, in speech, one does not signal affiliation by ‘talking’ simultaneously over one’s conversation partner, a major third apart» (AUCOUTURIER, CANONNE 2017: 106).

composition. Musical meaning, like the meaning generated through artworks' conversational interpretations, emerges through all those conversational interactions. Musical improvisation offers a view into the pragmatic (conversational and emergentist) generation of musical meaning; it portrays the way meaning emerges through and from communicative 'musical speech acts' performed by musicians as well by listeners. So, it reinforces the idea that music, like language, can also be understood in terms of communicative (inter)actions, thereby supporting, against the formalistic (mis-)understanding of music, the idea of musical meaning as well as the plausibility of the venerable metaphor of music as language.

References

ARBO, Alessandro (2013), *Entendre comme. Wittgenstein et l'esthétique musicale*, Hermann Éditeurs, Paris.

AUCOUTURIER, Jean-Julien, CANONNE, Clément (2017), «Musical friends and foes: the social cognition of affiliation and control in improvised interactions», in *Cognition*, n. 161, pp. 94-108.

AUSTIN, John L. (1962), *How to do things with words*, Clarendon Press, Oxford.

BERKOWITZ, Aaron (2010), *The improvising mind*, Oxford University Press, New York.

BERLINER, Paul (1994), *Thinking in jazz. The infinite art of improvisation*, The University of Press Press, Chicago.

BERTINETTO, Alessandro (2012), «Paganini does not repeat. Improvisation and the type/token ontology», in *Teorema*, n. 31/3, pp. 105-126.

BERTINETTO, Alessandro (2016a), *Eseguire l'inatteso. Ontologia della musica e improvvisazione*, Il Glifo, Roma.

BERTINETTO, Alessandro (2016b), "Do not fear mistakes – there are none" – *The mistake as surprising experience of creativity in jazz*, in SANTI, Marina, ZORZI, Eleonora (eds.), *Education as jazz*, Cambridge Scholars Publishing, Cambridge, pp. 85-100.

BERTINETTO, Alessandro (2017), *Pensée des sons*, Delatour, Paris.

BERTRAM, Georg (2010), *Improvisation und Normativität*, in BRANDSTETTER, Gabriele et al. (eds.) (2010), *Improvisieren. Paradoxien des Unvorhersehbaren*, Transcript, Bielefeld, pp. 21-40.

BERTRAM, Georg (2014), *Kunst als menschliche Praxis. Eine Ästhetik*, Suhrkamp, Berlin.

BESSON, Mireille (1999), «The musical brain: neural substrates of musical perception», in *Journal of New Music Research*, n. 28/3, pp. 246-256.

BESSON, Mireille, SCHÖN, Daniele (2003), *Comparison between language and music*, in PERETZ, Isabelle, ZATORRE, Robert J.(eds.), *The cognitive neuroscience of music*, Oxford University Press, Oxford, pp. 269-293.

BIANCHI, Claudia (2006), *Pragmatica del linguaggio*, Laterza, Roma-Bari.

BLACKING, John (1974), *How musical is man?*, University of Washington Press, Seattle-London.

BRANDT, Per Aage (2009), *Music and how we became human: a view from cognitive semiotics*, in MALLOCH, Stephen, TREVARTHEN, Colwyn (eds.), *Communicative musicality*, Oxford University Press, Oxford-New York, pp. 31-44.

BROWN, Steven (2000), *The 'musilanguage' model of music evolution*, in WALLIN, Nils L., MERKER, Björn, BROWN, Steven (eds.), *The origins of music*, MIT Press, Cambridge (MA), pp. 271-300.

CARROLL, Noël (1992), *Art, intentions and conversations*, in ISEMINGER, Gary (ed.), *Intention and interpretation*, Temple University Press, Philadelphia, pp. 97-131.

CHAUVIGNÉ, Léa A. S., GITAU, Kevin M., BROWN, Steven (2014), «The neural basis of audiomotor entrainment: an ALE meta-analysis», in *Frontiers in Human Neuroscience*, n. 8,776, PMC, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4179708>

CLARKE, Erik F. (2005), *Ways of listening. an ecological approach to the perception of musical meaning*, Oxford University Press, Oxford.

COOKE, Deryck (1959), *The language of music*, Clarendon Press, Oxford.

COOK, Nicholas (2001), «Theorizing musical meaning», in *Music Theory Spectrum*, n. 23/2, pp. 170-195.

CROSS, Ian (2005), *The evolutionary nature of musical meaning*, in MIELL, Dorothy, MACDONALD, Raymond, HARGREAVES, David J. (eds.), *Musical communication*, Oxford University Press, Oxford-New York, pp. 27-44.

CROSS, Ian (2008), «Musicality and the human capacity for culture», in *Musicae Scientiae*, Special Issue, 147-167.

CROSS, Ian, MORLEY Iain (2009), *The evolution of music: Theories, definitions, and the nature of the evidence*, in MALLOCH, Stephen, TREVARTHEN, Colwyn (eds.), *Communicative musicality*, Oxford University Press, Oxford-New York, pp. 61-81.

DARWIN, Charles (1871), *The descent of man, and selection in relation to sex*, Princeton University Press, Princeton (NJ), 1981.

DAVIES, Stephen (1994), *Musical meaning and expression*, Cornell University Press, Ithaca-London.

DAVIES, Stephen (2011a), *Infectious music: music-listener emotional contagion*, in COPLAN, Amy, GOLDIE, Peter (eds.), *Empathy: philosophical and psychological perspectives*, Oxford University Press, Oxford-New York, pp. 134-148.

DAVIES, David (2011b), *Philosophy of performing arts*, Blackwell, Oxford.

DENORA, Tia (2000), *Music in Everyday Life*, Cambridge University Press, Cambridge.

DISSANAYAKE, Ellen (2009), *Root, leaf, blossom, or bole: Concerning the origin and adaptive function of music*, in MALLOCH, Stephen, TREVARTHEM, Colwyn (eds.) (2009), *Communicative musicality*, Oxford University Press, Oxford-New York, pp. 17-30.

EMONS, Hans (2011), *Sprache als Musik*, Frank & Timme, Berlin.

GADAMER, Hans-Georg (1960), *Wahrheit und Methode*, Mohr, Tübingen.

GAGEL, Reinhard (2004), *Überlegungen zum künstlerischen und didaktischen Umgang mit improvisatorischer Kreativität*, Schott, Mainz.

GATES, Henry Louis Jr. (1989), *The signifying monkey: Towards a theory of Afro-American literary criticism*, Oxford University Press, Oxford-New York.

GOODMAN, Nelson (1968), *Languages of Art*, Bobbs-Merrill, Indianapolis (IN).

GRACYK, Theodore (2013), «Meaning of a song and meanings of song performances», in *Journal of Aesthetics and Art Criticism*, n. 71, pp. 23-33.

GRATIER, Maya (2008), «Grounding in musical interaction: Evidence from jazz performances», in *Musicae Scientiae*, Special Issue, pp. 71-110.

GRATIER, Maya, APTER-DANON, Gisèle (2009), *The improvised musicality of belonging: Repetition and variation in mother-infant vocal interaction*, in MALLOCH, Stephen, TREVARTHEM, Colwyn (eds.), *Communicative musicality*, Oxford University Press, Oxford-New York, pp. 301-327.

GREEN, Lucy (2005), «Musical meaning and social reproduction: A case for retrieving autonomy», in *Educational Philosophy and Theory*, n. 37/1, pp. 77-93.

GRICE, Paul H. (1975), *Logic and conversation*, in *Syntax and Semantics*, vol. 3, *Speech Acts*, ed. by COLE, Peter, MORGAN, Jerry L., Academic Press, New York, pp. 41-58.

- HAMILTON, James R. (2007), *The art of theatre*, Wiley-Blackwell, Oxford.
- HANSLICK, Eduard (1986), *On the musically beautiful*, Hackett, Indianapolis (IN).
- HATTEN, Robert S. (2006), *A theory of musical gesture and its application to Beethoven and Schubert*, in GRITTEN, Anthony, KING, Elaine (eds.), *Music and Gesture*, Ashgate, Aldershot, pp. 1-23.
- HATTEN, Robert S. (2010), «Aesthetically warranted emotion and composed expressive trajectories in music», in *Music Analysis*, n. 29, pp. 83-101.
- HAUSEN, Maija *et al.* (2013), «Music and speech prosody: A common rhythm», in *Frontiers of Psychology* n. 4, 566, <https://www.frontiersin.org/articles/10.3389/fpsyg.2013.00566/full>
- HIGGINS Kathleen M. (1997), *Musical idiosyncrasy and perspectival listening*, in ROBINSON, Jenefer (ed.), *Musical meaning*, Cornell University Press, Ithaca-London, pp. 83-102.
- HIGGINS, Kathleen M. (2012), *The music between us: is music a universal language?*, University of Chicago Press, Chicago.
- HUDDLESTON, Andrew (2012), «The conversational argument for actual intentionalism», in *British Journal of Aesthetics*, n. 52, pp. 241-256.
- HURON, David (2006), *Sweet anticipation. Music and the psychology of expectation*, MIT Press. Cambridge (MA)-London.
- IMBERTY, Michel (2000), *The question of innate competencies in musical communication*, in WALLIN, Nils L., MERKER, Björn, BROWN, Steven (eds.), *The origin of music*, MIT Press, Cambridge (MA), pp. 449-462.
- JACKENDOFF, Ray, LERDAHL, Fred (1983), *A generative theory of tonal music*, MIT Press, Cambridge (MA).
- JOHNSON-LAIRD, Philip N. (2002), «How jazz musicians improvise», in *Music Perception*, n. 19/3, pp. 415-442.
- JUSLIN, Patrik, SLOBODA, John (eds.) (2010), *Handbook of music and emotion*, Oxford University Press, Oxford-New York.
- KARBUSICKY, Vladimir (1986), *Grundriß der musikalischen Semantik*, Wissenschaftliche Buchgesellschaft, Darmstadt.
- KELLER, Peter E. (2008), *Joint action in music performance*, in MORGANTI, Francesca *et al.* (eds.), *Enacting Intersubjectivity*, IOS Press, Amsterdam, pp. 205-222.
- KIVY, Peter (1990), *Music alone: philosophical reflections on the purely music experience*, Cornell University Press, Ithaca (NY).

KIVY, Peter (1997), *Philosophies of arts: An essay in differences*, Cambridge University Press, Cambridge.

KIVY, Peter (2002), *Introduction to a philosophy of music*, Oxford University Press, Oxford-New York.

KIVY, Peter (2009), *Antithetical arts: on the ancient quarrel between literature and music*, Oxford University Press, Oxford.

KOOPMAN, Constantijn, DAVIES, Stephen (2001), «Musical meaning in a broader perspective», in *Journal of Aesthetics and Art Criticism*, n. 59/3, pp. 261-273.

KRAMER, Lawrence (2011), *Interpreting music*, University of California Press, Berkeley-Los Angeles.

KRAUT, Robert (2005), «Why does jazz matter to aesthetic theory?», in *Journal of Aesthetics and Art Criticism*, n. 63/1, pp. 3-15.

KÜHL, Ole (2011), *The semiotic gesture*, in GRITTEN, Anthony, KING, Elaine (eds.), *New perspectives on music and gesture*, Ashgate, Aldershot, pp. 123-129.

LA MATINA, Marcello (2006), «Osservazioni sul significato della musica», in *Quaderni di ricerca e didattica*, n. 22, pp. 29-53.

LANGER, Susanne K. (1942), *Philosophy in a new key*, Harvard University Press, Cambridge (MA).

LEVINSON, Stephen C. (1983), *Pragmatics*, Cambridge University Press, Cambridge.

LEVINSON, Jerrold (2006), *Contemplating art*, Oxford University Press, Oxford.

LEWIS, David (2002), *Convention*, Blackwell, Oxford-Malden.

LIPPMAN, Edward A. (1999), *The philosophy and aesthetics of music*, University of Nebraska Press, Lincoln-London.

LONDON, Justin (1996), «Musical and linguistic speech acts», in *Journal of Aesthetics and Art Criticism*, n. 54, pp. 49-64.

LONDON, Justin (2008), «Third-party uses of music and musical pragmatics», in *Journal of Aesthetics and Art Criticism*, n. 66/3, pp. 253-264.

MALLOCH Stephen, TREVARTHEN Colwyn (eds.) (2009), *Communicative musicality*, Oxford University Press, Oxford-New York.

MARTINELLI, Francesco (2009), «Opera and jazz to New Orleans and back, from Bechet to Trovesi», talk presented at the *Internationales Symposium: The Blue Moment Die Musik von ECM und der europäisch-amerikanische Musikdialog*,

Mannheim (manuscript).

MATURANA, Humberto R., VARELA, Francisco J. (1980), *Autopoiesis and Cognition*, Reidel, Dordrecht.

MAUS, Fred E. (1997), *Music as drama*, in ROBINSON, Jenefer (ed.), *Musical Meaning*, Cornell University Press, Ithaca-London, pp. 105-30.

MCREE, Graham (1997), «Meaning and the art status of music alone», in *British Journal of Aesthetics*, n. 37, pp. 31-46.

MEAD, George Herbert (1932), *The philosophy of the present*, University of Chicago Press, Chicago.

MEINI, Cristina (2015), «Musica, emozioni e scienze cognitive. Con qualche ambizione terapeutica», in *Sistemi intelligenti*, n. XXVII/2, pp. 373-398.

MITHEN, Steven (2005), *The singing Neanderthals*, Harvard University Press, Cambridge (MA).

MEYER, Leonard B. (1956), *Emotion and meaning in music*, The University of Chicago Press, Chicago-London.

MOLINO, Jean (2000), *Toward an evolutionary theory of music and language*, in WALLIN, Nils L., MERKER, Björn, BROWN, Steven (eds.), *The origins of music*, MIT Press, Cambridge (MA), pp. 165-176.

MONAHAN, Seth (2013), «Action and agency revisited», in *Journal of Music Theory*, n. 57/2, pp. 321-371.

MONSON, Ingrid (1996), *Saying something. Jazz improvisation and interaction*, University of Chicago Press, Chicago-London.

MORGANTI, Francesca, CARASSA, Antonella, RIVA, Giuseppe (eds.) (2008), *Enacting Intersubjectivity*, IOS Press, Amsterdam, pp. 205-222.

NATOLI, Cesare (2011), «Improvisazione musicale e complessità», in *Trópos: Journal of Hermeneutics and Philosophical Criticism*, n. 4/2, pp. 87-102.

NATTIEZ, Jean-Jacques (1976), *Fondements d'une sémiologie de la musique*, Seuil, Paris.

NEGRETTO, Elisa (2010), *The role of expectation in the constitution of subjective musical experience*. Doctoral Thesis, Padova, <http://paduaresearch.cab.unipd.it/2658/>

PANKSEPP, Jaak, TREVARTHEN, Colwyn (2009), *The neuroscience of emotion in music*, in MALLOCH, Stephen, TREVARTHEN, Colwyn (eds.), *Communicative musicality*, Oxford University Press, Oxford-New York, pp. 105-146.

PEIRCE, Charles S. (1965), *Collected papers*, Harvard University Press, Cambridge (MA).

PRESSING, Jeff, (1984), *Cognitive processes in improvisation*, in CROZIER, W. Ray, CHAPMAN, Anthony J. (eds.), *Cognitive Processes in the Perception of Art*, North Holland, Amsterdam, pp. 45-63.

PRESSING, Jeff (1998), *Psychological constraints on improvisational expertise and skill*, in NETTL, Bruno, RUSSELL, Melissa (eds.), *In the course of performance*, University of Chicago Press, Chicago-London, pp. 47-67.

RAFFMAN, Diana (1993), *Language, music, and mind*, MIT Press, Cambridge (MA).

RECANATI, François (2004), *Literal meaning*, Cambridge University Press, Cambridge.

RIDLEY, Aaron (2004), *The philosophy of music: theme and variations*, Edinburgh University Press, Edinburgh.

RINDERLE, Peter (2010), *Die Expressivität von Musik*, Mentis, Paderborn.

ROBINSON, Jenefer (2005), *Deeper than reason*, Clarendon Press, Oxford.

ROUSSEAU, Jean-Jacques (1781), *Essai sur l'origine des langues*, Flammarion, Paris 1993.

SACKS, Oliver (2007), *Musicophilia. Tales of music and the brain*, Knopf, New York.

SAUSSURE, Ferdinand de (1916), *Cours de linguistique générale*, Payot, Paris.

SAWYER, Richard K. (1996), «The semiotics of improvisation: the pragmatics of musical and verbal performance», in *Semiotica*, n. 108/3-4, 269-306.

SAWYER, Richard K. (2001), *Creating conversations: Improvisation in everyday discourse* Hampton Press, Cresskill (NJ).

SAWYER, Richard K. (2003), *Group creativity*, Lawrence Erlbaum, Mahwah (NJ).

SAWYER, Richard K. (2005), *Music and conversation*, in MIELL, Dorothy, MACDONALD, Raymond, HARGREAVES David J. (eds.), *Musical communication*, Oxford University Press, Oxford-New York, pp. 46-60.

SPENCER, Herbert (1857), «The origin and function of music», in *Fraser's Magazine*, n. 56, pp. 396-408.

SCHIAVIO, Andrea, HØFFDING, Simon (2015), «Playing together without communicating? A pre-reflective and enactive account of joint musical performance», in *Musicae Scientiae*, n. 19/4, pp. 366-388.

- SEARLE, John (1969), *Speech acts*, Cambridge University Press, Cambridge.
- SILVERSTEIN, Michael (2003), «Indexical order and the dialectic of sociolinguistic life», in *Language & Communication*, n. 23/3-4, pp. 193-229.
- SLOBODA, John (1985), *The musical mind*, Clarendon Press, Oxford.
- SPERBER, Dan, WILSON, Deirdre (1986), *Relevance. Communication and cognition*, Blackwell, Oxford.
- STERN, Daniel N. (2010), *Forms of vitality: Exploring dynamic experience in psychology, the arts, psychotherapy, and development*, Oxford University Press, Oxford.
- TOLBERT, Elizabeth (2001), «Music and meaning: an evolutionary story», in *Psychology of Music*, n. 29/1, pp. 84-94.
- TOMASELLO, Michael (1999), *The cultural origin of human cognition*, Harvard University Press.
- TOMASELLO, Michael (2008), *Origins of human communication*, Cambridge (MA)-London.
- WALTON, Kendall (1988), «What is abstract about the art of music?», in *Journal of Aesthetics and Art Criticism*, n. 46/3, pp. 351-64.
- WALTON, Kendall (1994), «Listening with imagination: Is music representational?», in *Journal of Aesthetics and Art Criticism*, n. 52/1, pp. 47-61.
- WALTON, Ashley, RICHARDSON, Michael J., CHEMERO, Anthony (2014), «Self-Organization and semiosis in jazz improvisation», in *International Journal of Signs and Semiotic Systems*, vol. 3/2, pp. 12-25.
- WATT, Roger J., ASH, Roisin L. (1998), «A psychological investigation of meaning in music», in *Musicae Scientiae*, vol. 2/1, pp. 33-53.
- WITTGENSTEIN, Ludwig (1953), *Philosophical investigations*, Blackwell, Oxford.
- ZBIKOWSKI, Laurence (2009), *Music, language, and multimodal metaphor*, in FORCEVILLE, Charles, URIOS-APARISI, Eduardo (eds.), *Multimodal metaphor*, De Gruyter, Berlin, pp. 359-381.